UNITED STATES PATENT AND TRADEMARK OFFICE

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10/541,929	07/11/2005	Cristina Gomila	PU030019	6062

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _31 May 2011_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-23_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-23_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _11 July 2005_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 5/31/11, with respect to claims 1-23, have been fully considered but they are not persuasive.

2.   Claim 1 remains rejected under 35 U.S.C. 102(b) as being anticipated by Chien at al. (U.S. Pat. 5,621,467; hereinafter Chien; already of record).

3.   Claims 2-23 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Chien, in view of Richardson (Richardson, "H.264/MPEG-4 Part 10: Intra Prediction").

4.   The Applicant(s) present(s) four (4) substantive argument(s) contending the Examiner's rejection(s) of claim(s) 1 under 35 U.S.C. 102(b) as being anticipated by Chien and claim(s) 2-23 under 35 U.S.C. 103(a) as being unpatentable over Chien, in view of Richardson, as was set forth in the Office Action of 6/8/10. However, after carefully reviewing the argument(s) presented and further scrutiny of the applied reference(s), the Examiner must respectfully disagree and maintain the grounds of rejections for the reasons that follow.

        The Applicant first argues that "...[i]n summary, none of the sections of Chien...teaches applicant's feature of deriving at least one intra-prediction coding mode for obtaining coding prediction values to define a concealment direction..." (Remarks/Arguments of 5/31/11: pg. 8, lines 9-14). That is, "...the concealment modes of Chien et al. do not constitute the any of the exemplary coding modes described in applicant's specification... " (Remarks/Arguments of 5/31/11: pg. 7, line 32 – pg. 8, line 2). In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which

applicant relies (i.e., coding modes described in the specification) are not recited in the rejected

claim(s). Although the claims are interpreted in light of the specification, limitations from the

specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26

USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, Applicant also argues that Chien does not say anything about "…any

coding mode that would establish which direction interpolation should occur…"

(Remarks/Arguments of 5/31/11: pg. 8, lines 3-10). In response to applicant's argument that the

references fail to show certain features of applicant's invention, it is noted that the features upon

which applicant relies (i.e., which direction interpolation should cocur) are not recited in the

rejected claim(s). Although the claims are interpreted in light of the specification, limitations

from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26

USPQ2d 1057 (Fed. Cir. 1993). The cited section of Chien that discusses Keeson is to establish

that directional interpolation is known.

The Applicant next argues that Richardson does not "conceal image errors"

(Remarks/Arguments of 5/31/11: pg. 8, lines 26-27). In response to applicant's arguments

against the references individually, one cannot show nonobviousness by attacking references

individually where the rejections are based on combinations of references. See *In re Keller*, 642

F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375

(Fed. Cir. 1986). That is, Chien conceals errors and in combination with Richardson, would

have a specific direction for interpolation.

Lastly, the Applicant argues that Chien and Richardson fail to teach a mirroring of the

interpolation filter (Remarks/Arguments of 5/31/11: pg. 9, lines 11-34). However, the Examiner

respectfully disagrees. As previously established in the Non-Final Rejection of 5/5/11: "Chien

discloses using the block vertically above the lost block to determine predicted values (Chien:

col. 3, line 66 - col. 4, line 2). Chien alternatively uses a prior frame collocated with the missing

block (Chien: col. 4, lines 2-4). With the Applicant's description of a "mirrored" interpolation

filter, an alternative set of reference pixels for concealment has been chosen."

Accordingly, the Examiner maintains the applicability of the references cited and

maintains the grounds of rejection previously presented. A recitation of the rejections follow

below.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6.   Claim **1** is rejected under 35 U.S.C. 102(b) as being anticipated by Chien.

Re. **claim 1**, Chien teaches a method for concealing errors in a coded image formed of an

array of macroblocks (Chien: Title; Abstract), comprising the steps of: identifying macroblocks

within the array having missing/corrupted pixel values (Chien: col. 2, lines 54-55, 65-67; col. 4,

lines 35-40); for each identified macroblock, deriving at least one intra-prediction coding mode

for obtaining coding prediction values to define a concealment direction, the at least one intra-

prediction coding mode derived in accordance with the coded image (Chien: col. 4, lines 35-51;

col. 1, lines 30-32; col. 1, lines 50-55); establishing an interpolation filter for the identified intra-

prediction coding mode for estimating concealment values for each identified macroblock along

the concealment direction (Chien: col. 4, lines 35-51; col. 1, lines 30-32); and concealing the

identified macroblock in accordance with the estimated concealment values (Chien: col. 4, lines

35-51).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

8.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness
        or nonobviousness.

9.   Claims **2-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chien, in

view of Richardson.

        Re. **claim 2**, Chien does not explicitly teach that the image is coded in accordance with

the H.264 coding technique and wherein the step of deriving the at least one intra-prediction

mode further comprises the step of deriving an Intra_4x4 prediction mode prescribed by the

H.264 coding technique. However, in the same field of endeavor, Richardson teaches different

modes of intra-prediction and choosing one according to the H.264 standard (Richardson: pg. 1

of 1, section 2) for the benefit of minimizing the residual between a sample and the block to be

encoded (Richardson: pg. 1 of 1, section 2, last sentence). Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made that the image is

coded in accordance with the H.264 coding technique and wherein the step of deriving the at

least one intra-prediction mode further comprises the step of deriving an Intra_4x4 prediction

mode prescribed by the H.264 coding technique in the Chien invention, as shown in Richardson,

for the benefit of minimizing the residual between a sample and the block to be encoded. The

Chien invention, now incorporating the Richardson invention, has all the limitations of claim 2.

Re. **claim 3**, Chien, now incorporating Richardson, teaches that the step of establishing

the interpolation filter further comprises selecting the interpolation filter prescribed by the H.264

coding technique for the derived Intra_4x4 prediction mode (Chien: Fig. 3; Richardson: pg. 1 of

1, section 2).

Re. **claim 4**, Chien, now incorporating Richardson, teaches that the step of establishing

the interpolation filter further comprises the step of deriving a interpolation filter mirroring the

interpolation filter prescribed by the H.264 coding technique for the derived Intra_4x4 prediction

mode (Chien: Fig. 5; col. 3, line 66 - col. 4, line 4 & Richardson: pg. 1 of 1, section 2; Fig. 2-2).

Re. **claim 5**, Chien, now incorporating Richardson, teaches that the derived Intra_4x4

prediction mode comprises Mode 0 (vertical) and wherein the derived interpolation filter

comprises the interpolation filter prescribed by the H.264 coding technique for Mode 0

(Richardson: pg. 1 of 1, section 2; Fig. 2-2).

Re. **claim 6**, Chien, now incorporating Richardson, teaches that the derived Intra_4x4 prediction mode comprises Mode 1 (horizontal) and wherein the derived interpolation filter comprises the interpolation filter prescribed by the H.264 coding technique for Mode 1 (Richardson: pg. 1 of 1, section 2; Fig. 2-2).

Re. **claim 7**, Chien, now incorporating Richardson, teaches that the derived Intra_4x4 prediction mode comprises Mode 2 (DC) and wherein the step of establishing the interpolation filter further comprises the step independently weighting a sum of pixel values from a neighboring column and a neighboring row in a vertical direction and a horizontal direction, respectively (Richardson: pg. 1 of 1, section 2; Fig. 2-2).

Re. **claim 8**, Chien, now incorporating Richardson, teaches that the derived Intra_4x4 prediction mode comprises Mode 3 (Diagonal down left) and wherein the derived interpolation filter comprises the interpolation filter prescribed by the H.264 coding technique for Mode 3 (Richardson: pg. 1 of 1, section 2; Fig. 2-2).

Re. **claim 9**, Chien, now incorporating Richardson, teaches that the derived Intra_4x4 prediction mode comprises Mode 7 (vertical left) and wherein the derived interpolation filter comprises the interpolation filter prescribed by the H.264 coding technique for Mode 7 (Richardson: pg. 1 of 1, section 2; Fig. 2-2).

Re. **claim 10**, Chien, now incorporating Richardson, teaches that the derived Intra_4x4 prediction mode comprises Mode 4 (diagonal down right) and wherein the derived interpolation filter comprises the interpolation filter prescribed by the H.264 coding technique for Mode 4 (Richardson: pg. 1 of 1, section 2; Fig. 2-2).

Re. **claim 11**, Chien, now incorporating Richardson, teaches that the derived Intra_4x4 prediction mode comprises Mode 5 (Vertical right) and wherein the derived interpolation filter comprises the interpolation filter prescribed by the H.264 coding technique for Mode 5 (Richardson: pg. 1 of 1, section 2; Fig. 2-2).

Re. **claim 12**, Chien, now incorporating Richardson, teaches that the derived Intra_4x4 prediction mode comprises Mode 6 (horizontal down) and wherein the derived interpolation filter comprises the interpolation filter prescribed by the H.264 coding technique for Mode 6 (Richardson: pg. 1 of 1, section 2; Fig. 2-2).

Re. **claim 13**, Chien, now incorporating Richardson, teaches that the derived Intra_4x4 prediction mode comprises Mode 8 (horizontal up) and wherein the derived interpolation filter comprises the interpolation filter prescribed by the H.264 coding technique for Mode 8 (Richardson: pg. 1 of 1, section 2; Fig. 2-2).

Re. **claim 14**, the claim(s) recites analogous limitations to claim(s) 1 and 2 above, and is/are therefore rejected on the same premise.

Re. **claim 15**, the claim(s) recites analogous limitations to claim(s) 3 above, and is/are therefore rejected on the same premise.

Re. **claim 16**, the claim(s) recites analogous limitations to claim(s) 4 above, and is/are therefore rejected on the same premise.

Re. **claim 17**, the claim(s) recites analogous limitations to claim(s) 6 above, and is/are therefore rejected on the same premise.

Re. **claim 18**, the claim(s) recites analogous limitations to claim(s) 8 above, and is/are therefore rejected on the same premise.

Re. **claim 19**, the claim(s) recites analogous limitations to claim(s) 9 above, and is/are therefore rejected on the same premise.

Re. **claim 20**, the claim(s) recites analogous limitations to claim(s) 10 above, and is/are therefore rejected on the same premise.

Re. **claim 21**, the claim(s) recites analogous limitations to claim(s) 11 above, and is/are therefore rejected on the same premise.

Re. **claim 22**, the claim(s) recites analogous limitations to claim(s) 12 above, and is/are therefore rejected on the same premise.

Re. **claim 23**, the claim(s) recites analogous limitations to claim(s) 13 above, and is/are therefore rejected on the same premise.

Conclusion

10.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Geepy Pe whose telephone number is (571)270-3703. The

examiner can normally be reached on Monday - Friday, 7:00AM - 3:00PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Geepy Pe/
Examiner, Art Unit 2485

/JAYANTI K PATEL/
Supervisory Patent Examiner, Art Unit 2485
June 26, 2011